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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,846	12/24/2001	Chang-Gang Zhang	13166RRUS01U	4165

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EXAMINER	
MURPHY, RHONDA L	

ART UNIT	PAPER NUMBER
2616	

MAIL DATE	DELIVERY MODE
02/05/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No.	Applicant(s)	
	10/035,846	ZHANG ET AL.	
	Examiner	Art Unit	
	Rhonda Murphy	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 November 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 23-32 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 23-32 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 December 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This communication is responsive to the amendment filed on 11/23/07. Accordingly, claims 1-22 have been previously canceled and claims 23-32 are currently pending in this application.

Response to Arguments

1. Applicant's arguments filed 11/23/07 have been fully considered but they are not persuasive. Applicant argues the Reed reference does not reduce the number of cell sites or sectors, but instead replaces them with less resource burdened sites or sectors. However, Examiner respectfully disagrees. Examiner would like to direct the Applicant to col. 8, lines 19-27 and Figure 1, mobile 34, soft handoff link 38, and base station 22. Reed describes limiting the number of links (38) from the base station (22) to the mobile terminal (34). Once the soft handoff link is removed, the mobile terminal is no longer connected to that particular base station within that cell site (28). Therefore, the number of cell sectors or cell sites (28) associated with that mobile terminal is reduced, as is the number of soft handoff links that can be employed for hand-off.

2. Applicant further disagrees with the motivation for terminating a weakest forward link when the mobile terminal is in five-way hand-off. It would have been obvious to one skilled in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value, so as to eliminate the weakest links in order to increase the available number of spreading codes. Reed

further describes using signal strength measurements to eliminate communication links when the subscriber unit communicates with *two or more* communication links (col. 3, lines 31-64).

3. Thus, Examiner's position is that the Reed and Wakuta references teach all claimed limitations and the rejection has been maintained.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 23 – 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US 6,160,798).

Regarding claim 23, Reed teaches a method for managing Walsh Codes in a Code Division Multiple Access (CDMA) cellular wireless communication system, the method comprises: allocating a number of Walsh Codes in the CDMA cellular wireless communication system to a group of cell(s) or sector(s) (col. 1, lines 40-52); setting a handoff participation limit to a maximum participation limit, where the handoff participation limit determines a maximum number of cells or sectors that may participate in handoff with any serviced mobile terminal (col. 7, lines 11-36 and col. 8, lines 14-35); when an available number of the number of Walsh Codes becomes less than a first Walsh Code availability threshold, reducing the hand handoff participation limit to a first participation limit that is less than the maximum participation limit (col. 7, lines 11-36); and for any mobile terminal participating in handoff with a number of cells or sectors that exceeds the handoff participation limit, terminating forward link transmissions from a corresponding number of servicing cell(s) or sector(s) and releasing a corresponding number of Walsh Code(s) (col. 7, lines 29-35 and 60-64).

Reed fails to explicitly disclose when an available number of the number of Walsh Codes becomes less than a second Walsh Code availability threshold, that is less than the first Walsh Code availability threshold, reducing the handoff participation limit to a second participation limit that is less than the first participation limit.

However, it would have been obvious to one skilled in the art to repeat the process of reducing the handoff participation limit to a second participation limit that is less than the first participation limit, in order to continue to increase the number of available spreading codes (col. 7, lines 63-64).

Regarding claim 24, Reed teaches the method of claim 23, wherein terminating forward link transmissions from a corresponding number of servicing cell(s)/sector(s) and releasing a corresponding number of Walsh Code(s) further comprises: determining a weakest forward link serviced by a weakest cell or sector (col. 3, lines 25-35); and terminating the weakest forward link serviced by the weakest cell or sector (col. 3, lines 47-55).

Regarding claim 25, Reed teaches the method of claim 24, wherein the weakest forward link is determined based upon the strength of corresponding pilot signals, as measured and reported by the mobile terminal (col. 3, lines 25-35).

Regarding claim 26, Reed teaches the method of claim 25, wherein a plurality of reports of pilot signal strengths are used in conjunction with mathematical operations to determine the weakest forward link (col. 9, lines 31-39).

Reed fails to explicitly disclose an averaging operation.

An averaging operation is a type of mathematical operation. Since Reed teaches mathematical operations to determine the weakest forward link, it would obvious to include an averaging operation as a type of mathematical operation, in order to determine the weakest forward link by obtaining an average of pilot signal strengths.

Regarding claim 27, Reed teaches the method of claim 23, wherein terminating forward link transmissions from a corresponding number of servicing cell(s)/sector(s) and releasing a corresponding number of Walsh Code(s) further comprises: terminating a forward link for each mobile terminal being serviced by two forward links (col. 3, lines 47-55).

Reed fails to explicitly disclose terminating a weakest forward link when the mobile terminal is in five-way hand-off; and terminating two weakest forward links when the mobile terminal is in six-way hand-off.

However, it would have been obvious to one skilled in the art to adjust, vary, select or optimize the numerical parameters or values of any system absent a showing of criticality in a particular recited value, so as to eliminate the weakest links in order to increase the available number of spreading codes.

4. Claims 28 – 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Reed et al. (US 6,160,798) in view of Wakuta et al. (US 2005/0221828).

Regarding claim 28, Reed teaches the same limitations described above in the rejection of claim 23. Reed further teaches base station controller that supports Code Division Multiple Access (CDMA) operations for a group of cells or sectors, the base station controller (Fig. 1, base station controller 42) comprises: at least one base station interface that interface the base station controller to a plurality of base stations (the interfaces must exist to connect communication lines 44 to multiple base stations); and at least one digital processor (controller 46) coupled to the base station interface (see Fig. 1); and a plurality of software instructions that are executed by the processor, the plurality of software instructions comprising: software instructions (col. 3, lines 22-23) that, upon execution by the processor, cause the base station controller to perform the functions described above in the rejection of claim 23.

Reed fails to explicitly disclose a Mobile Switching Center (MSC). It is known in the art that MSCs are connected to base station controllers, which inherently include an interface for connecting the two units.

However, Wakuta discloses an MSC interface that interfaces the base station controller to a MSC (Fig. 7, interface must exist in order to communicate with the base station controller).

In view of this, it would have been obvious to one skilled in the art to include an MSC interface, so as to provide connection means to the base station.

Regarding claim 29, Reed teaches the base station controller of claim 28, wherein in terminating forward link transmissions from a corresponding number of servicing cell(s)/sector(s) and releasing a corresponding number of Walsh Code(s), the base station controller determines a respective weakest forward link for the mobile terminal (col. 3, lines 25-35) and terminates the respective weakest forward link (col. 3, lines 47-55).

Regarding claim 30, Reed teaches the base station controller of claim 29, wherein the base station controller determines the respective weakest forward link based upon the strength of corresponding pilot signals, as measured and reported by the mobile terminal (col. 3, lines 25-35).

Regarding claim 31, Reed teaches the base station controller of claim 30, wherein a plurality of reports of pilot signal strengths are used in conjunction with mathematical operations to determine the weakest forward link (col. 9, lines 31-39).

Reed fails to explicitly disclose an averaging operation.

An averaging operation is a type of mathematical operation. Since Reed teaches mathematical operations to determine the weakest forward link, it would obvious to include an averaging operation as a type of mathematical operation, in order to determine the weakest forward link by obtaining an average of pilot signal strengths. **Regarding claim 32**, Reed teaches the base station controller of claim 28, wherein the base station controller operates consistent with at least one of IS-95A, IS-95B, I xRTT and 1 xEV-DO operating standards (col. 1, lines 28-31).

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Rhonda Murphy whose telephone number is (571) 272-3185. The examiner can normally be reached on Monday - Friday 9:00 - 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy Vu can be reached on (571) 272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Rhonda Murphy
Examiner
Art Unit 2616

RM

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